INCH-POUND

MIL-PRF-25670/2C
30 May 1997

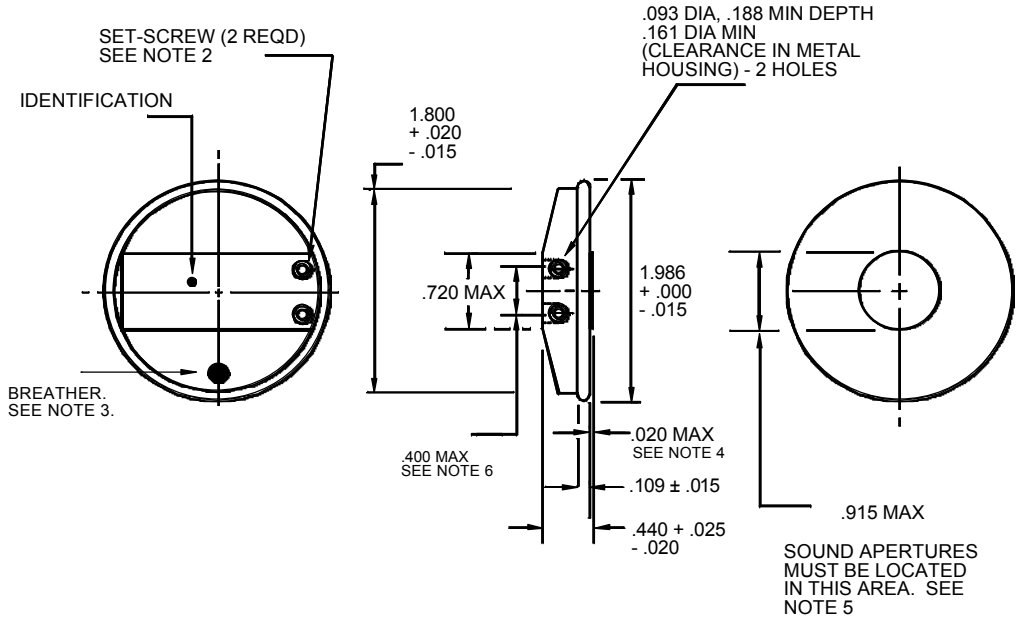
SUPERSEDING
MIL-E-25670/2B(USAF)
20 FEBRUARY 1980

PERFORMANCE SPECIFICATION SHEET

EARPHONE ELEMENT, HIGH- AND LOW-ALTITUDE, H-143/AIC, AND LOW-ALTITUDE, WATER-IMMERSIBLE, H-143A/AIC

This specification sheet is approved for use by the Department of the Air Force, and is available for use by all Departments and Agencies of the Department of Defense.

The complete requirements for procuring the earphone element described herein shall consist of this document and the latest issue of MIL-PRF-25670.



NOTES:
1. Dimensions are in inches. Unless otherwise specified, tolerance is ± .010 in.
2. Screws shall be recessed, of type slotted or allen (for interchangeability of spares), and shall securely hold the next-higher-assembly headset-connector pins, preventing inadvertent disconnection.
3. Use of, quantity and location of breather hole are optional. See Requirements.
4. The raised, central portion of the front cover is optional only in the H-143A/AIC.
5. All outer dimensions shall ensure a firm positioning of the element in standard earcup foam filler material (depth, contour, ear-position), as well as within the standard earcup retaining-ring.
6. Cable-connection holes shall be positioned within reach of standard-length headset cabling.

Ⓒ FIGURE 1. Earphone elements, H-143/AIC, and H-143A/AIC.
Ⓒ denotes changes

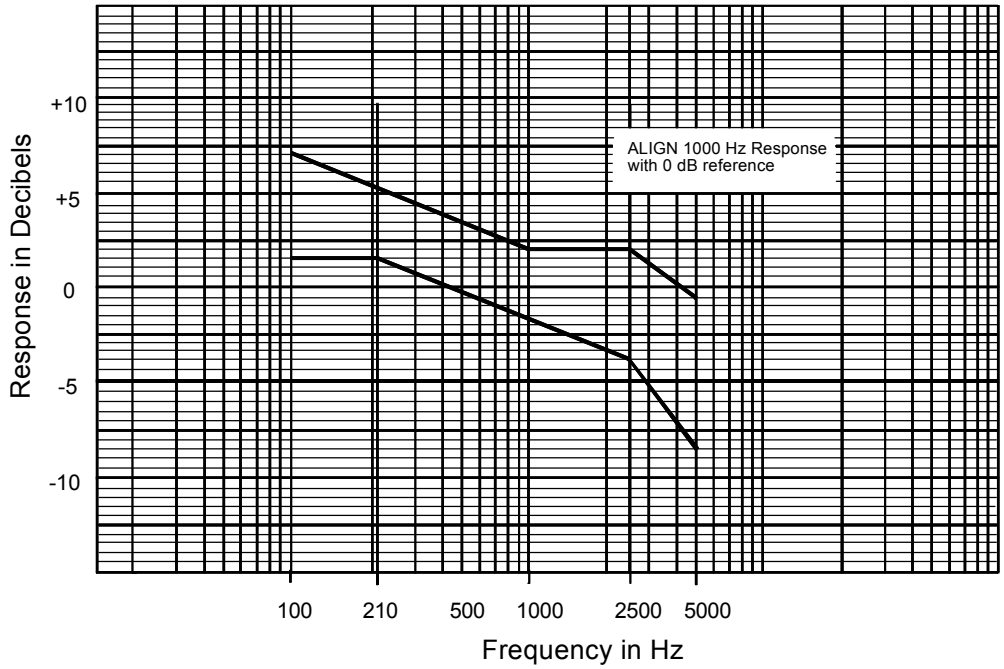


FIGURE 2. Ground level frequency response envelope for earphone element H-143/AIC.

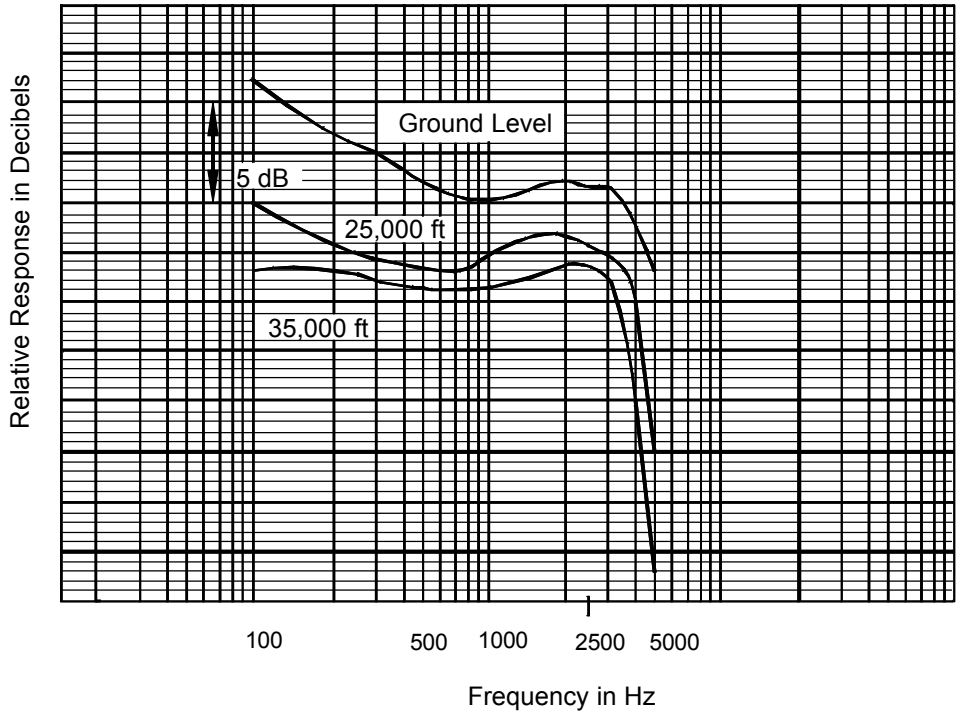


FIGURE 3. Typical pressure frequency characteristics for earphone element H-143/AIC.

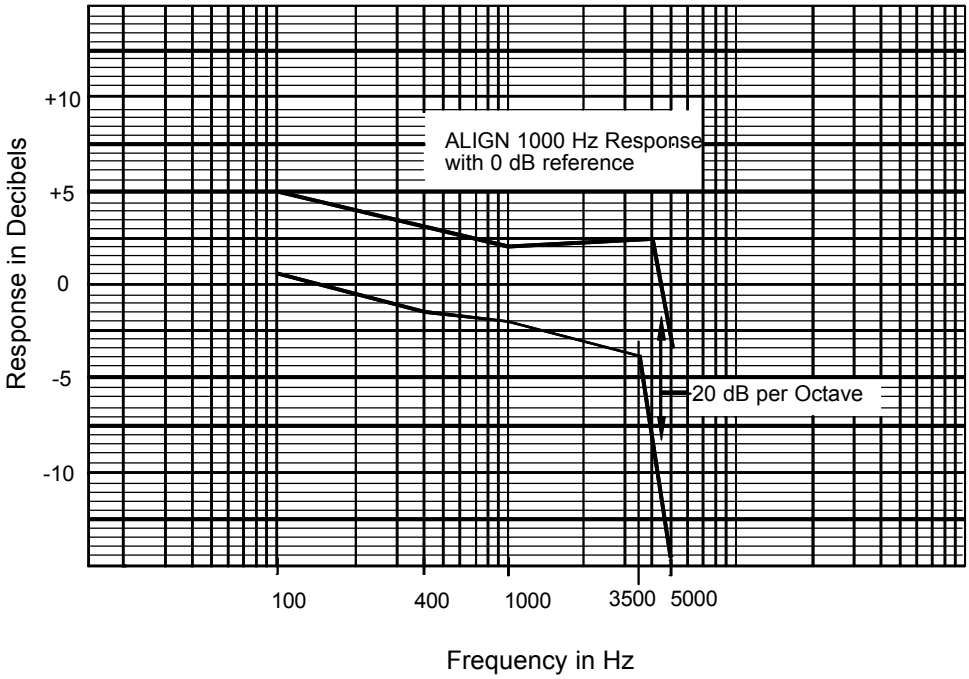
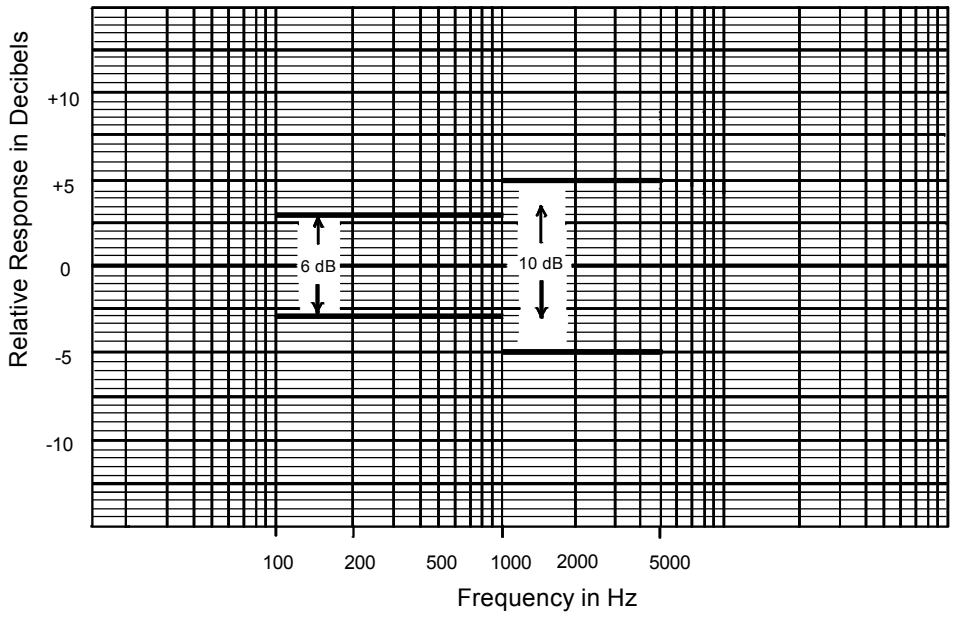


FIGURE 4. 25,000 ft. frequency response envelope for earphone element H-143/AIC.



© FIGURE 5. Ground-level frequency response for earphone element, immersible, H-143A/AIC.

REQUIREMENTS:

Dimensions and configuration: See figure 1.

Weight: 1.25 ounces, maximum.

Ⓒ Color: The back case shall be dull black, or an equivalent low-contrast, dark color, while the front cover shall be either clear, anodized aluminum or black, in order to indicate the versatility of the parts' use in both ground-level and altitude applications.

Ⓒ Breather: If the earphone element includes a breather hole in the back case, either as a hydroscopic breather, or a pressure equalization port, it shall be no more than .125 inches in diameter.

Stray magnetic field: 5^{o} maximum, measured at a distance of 12 inches.

Frequency response range: 100 to 5000 Hz.

Frequency response:

H-143/AIC:

At ground level : Within the limits specified in figure 2. The response in 1000 to 5000 Hz shall not change by more than $\pm$ 3 dB in any 500 Hz limit.

At altitude: Within the characteristics shown on figure 3 and in the response envelope on figure 4.

Ⓒ H-143A/AIC:

At ground level: Within the limits specified in figure 5.

At altitude: Within $\pm$ 5 dB of the ground level response at an altitude of 15,000 ft, up to 3500 Hz.

Sensitivity:

H-143/AIC: 105 $\pm$ 3 dB at 1kHz at ground level; 100 dB minimum at 1 kHz at an altitude of 25,000 feet.

Ⓒ H-143A/AIC: 102 dB minimum at 1 kHz at ground level.

Impedance:

at 1000 Hz - 19 $\pm$ 2 Ω.

between 100 to 3000 Hz - Shall not exceed 22 Ω.

Harmonic distortion:

between 100 and 2000 Hz - 3%, maximum.

between 2000 and 5000 Hz - 5%, maximum.

Speech Intelligibility: In accordance with MIL-PRF-25670.

© Immersion (H-143A/AIC only): The earphone element shall be constructed in a watertight manner, such that there is neither penetration (seepage) of water into the interior of the part, nor any other degradation in performance after being subjected to the testing described in MIL-STD-810, method 512.3, “Leakage (immersion)”, procedure I.

© Marking (H-143A/AIC only): Marking shall be in accordance with MIL-PRF-25670, with the addition that the part shall have the term “IMMERSIBLE” displayed on the back cover (location optional), in order to better distinguish the H-143A/AIC from the identical H-143/AIC.

Intended use: Earphone elements H-143/AIC and H-143A/AIC are low-impedance, light-weight transducers used in noise-attenuating communications headsets. The H-143/AIC is a replaceable component of the headset-microphones used by high-altitude aircrew (flight) and groundcrew personnel, described in documents such as MIL-PRF-87819(USAF), MIL-H-83511 and MIL-E-83425(USAF). The H-143A/AIC is a low-altitude, water-proof version of the H-143/AIC. It is used by the US Army as a component of the headset-microphone kit MK-896A/AIC, which is itself a component of the flying helmet SPH-4.

TABLE I. Part number designations.

Part or Identifying Number (PIN)	Characteristics
H-143/AIC	High- and low-altitude earphone element.
H-143A/AIC	Low-altitude, water-immersible earphone element.

CONCLUDING MATERIAL

Custodians:
Air Force - 85
Army - CR

Review activities:
Air Force - 99
DLA - ES

Preparing activity:
Air Force - 85

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